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**To: Sean Marten, Planning Manager**

**CC: Danny Clark, Shea Doran**

**Ref: Horsford Phase 3**

**From: Andrew Weight, Engineering Manager**

**Date: 29 November 2018**

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### **Horsford Phase 3 Land between Green Lane and Mill Lane, Horsford - Utilities and Drainage Review**

A review of the site has been undertaken to establish constraints and opportunities relating to drainage and utility provision for the land between Green Lane and Mill Lane as shown on the framework plan appended.

The site is approximately 21 Hectares, triangular in shape, bordered to the east by Mill Lane and north by Green Lane. To the south-west are existing and current residential developments phase 1 (Butterfly Mill) & phase 2 (Kingfisher Meadow).

The topography of the site generally falls from approx. 35-36m AOD on the southwestern boundary to a low point of approx. 31m AOD in the northern corner of the site.

#### **Flood Risk**

Review of the Environment Agency Flood Mapping shows that the site is wholly located within Flood Zone 1 (Land having a less than 1 in 1,000 annual probability of river or sea flooding), this is shown on Figure 1. The Environment Agency Flood Mapping also shows that the site is not at risk of flooding from Surface Water, shown on Figure 2

A site specific Flood Risk Assessment will be required to review other sources of flooding (eg ground water and surface water drains).

#### **Surface Water Disposal**

Geotechnical investigations have been undertaken for the adjoining consented sites which demonstrate that disposal of surface water will be feasible using infiltration to subsoil as part of a SuDS scheme. From inspection of these specific investigations on the boundary of the site, it should be feasible to use the same methodology for Phase 3. Sufficient land for SuDS features will need to be incorporated into the site layout.

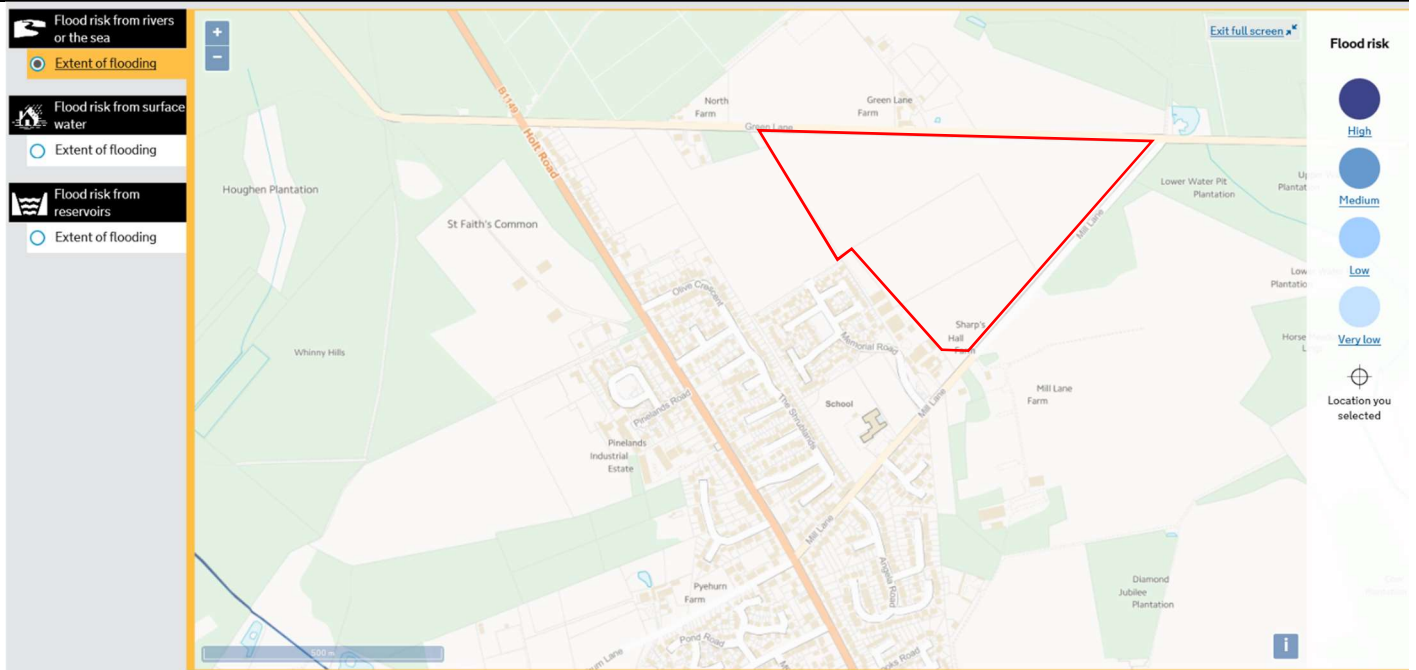


Figure 1 Flood Risk from river or sea flooding <https://flood-map-for-planning.service.gov.uk/>

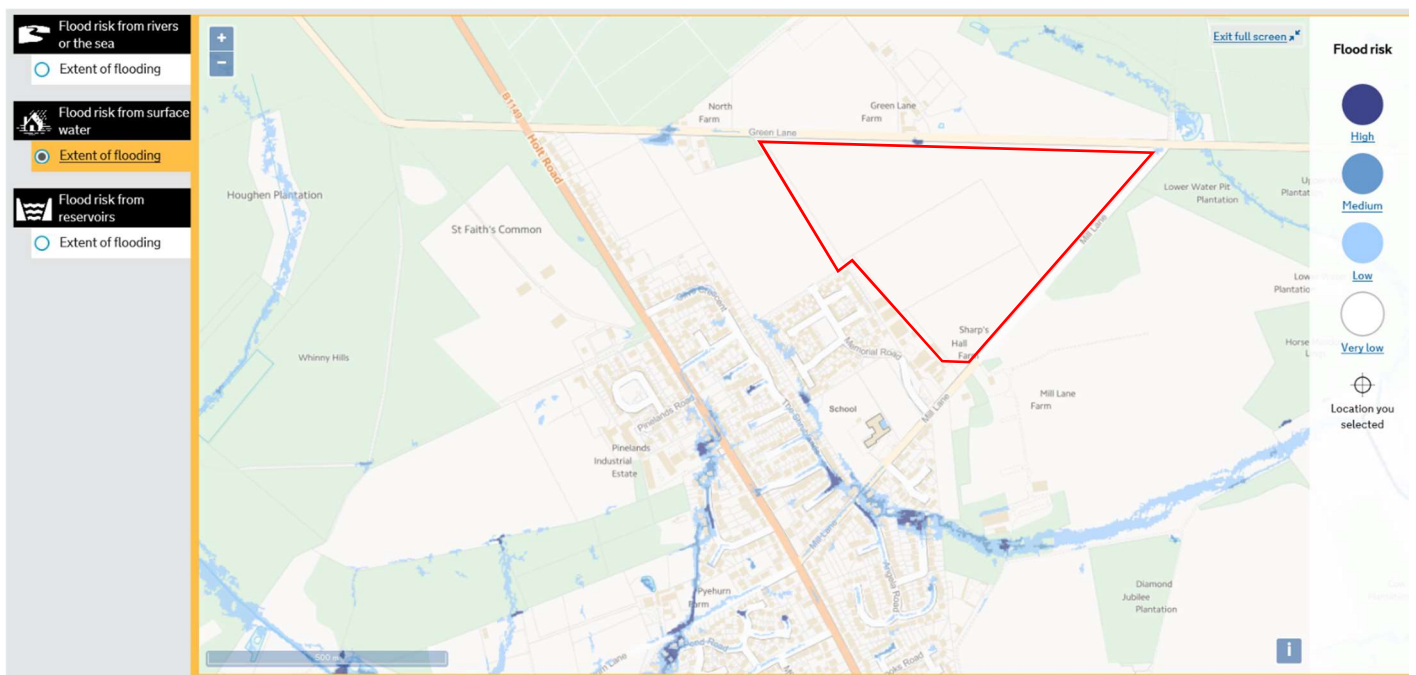


Figure 2 Flood Risk from surface water flooding <https://flood-map-for-planning.service.gov.uk/>

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## **Foul Water Disposal**

From review of the topography, it is anticipated that an onsite foul pumping station will be required to convey flows to an offsite sewer. As part of the Phase 2 development an adoptable pumping has been constructed which has been designed with the ability to receive pumped flows from Phase 3 to discharge at previously agreed flow rates to an outfall manhole in Holt Road.

Should this strategy not be acceptable to Anglian Water Services (AWS), there is an obligation for AWS to provide a suitable, practicable connection point and any downstream network reinforcement as required. This point being the nearest sewer of equal or greater size to the site specific infrastructure. Any detriment in consequence of the connection will be dealt with by AWS with developers contribution through the Zonal Charge scheme.

If there is a requirement to cross third party land, AWS are able to use Sections 158 and 159 of the Water Industry Act (Powers to lay pipes in streets and Power to lay pipes in other land, respectively) to requisition the new sewers.

## **Electrical Supply**

From inspection of record drawings, no existing electrical cables cross the site. As part of the Phase 2 development, the 11kV High Voltage network was extended into the site to serve a new sub-station. The HV network has been sized to accommodate supply to the Phase 3 land for up to 500 units over the previously consented phases.

## **Gas Supply**

As part of the Phase 2 development, offsite network reinforcement has been instructed and the gas network extended into the site, sized to accommodate supply to the Phase 3 land for up to 500 units over the previously consented phases.

## **Telecomms**

Through a Barratt Group Agreement, Openreach will provide Fibre to Property to all developments which will allow customers to have BT Superfast Broadband or alternative Internet Service Providers/ Landlines licensed through Openreach.

As part of the Phase 2 development, Virgin Media are also providing Fibre to Property, which has the ability to be extended to Phase 3.

## **Potable Water Supply**

As part of the Phase 2 development, the water network was extended into the site and has been sized to accommodate supply to the Phase 3 land for up to 500 units over the previously consented phases.

## Conclusion

- The site is wholly located in Flood Risk Zone 1 (Low Probability)
- The underlying ground conditions are suitable for surface water disposal using infiltration SUDS
- Foul Water infrastructure installed in the Phase 2 development allows for connection from Phase 3.
- Utility supplies installed in the Phase 2 development provide sufficient capacity for Phase 3.

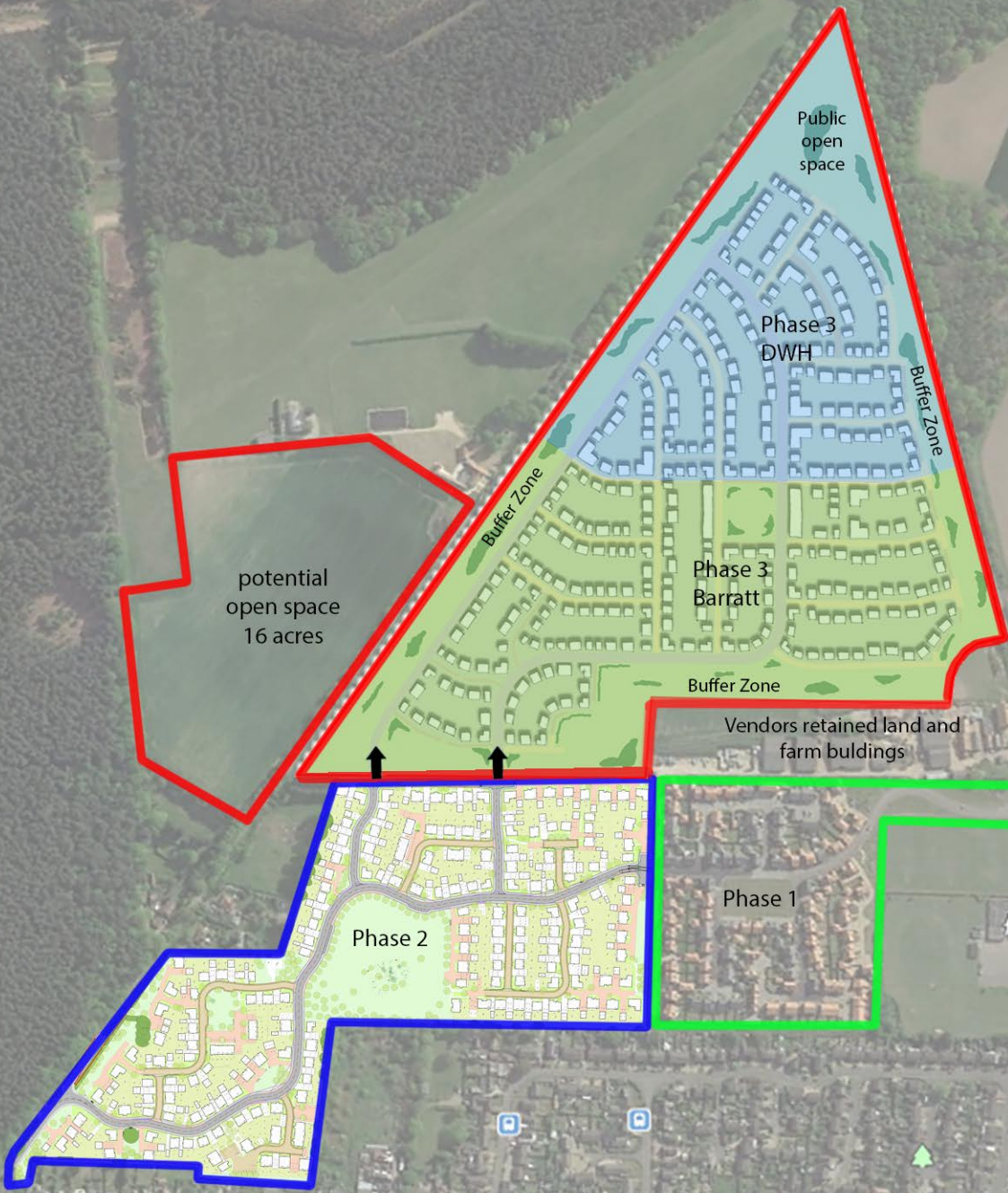
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